

CONFIDENTIAL

CONFIDENTIAL

50X1-HUM

	<u>Page</u>
10. Heat Loads and Rate of Heat Liberation	69
11. Determination of Certain Structural Elements	71
II. Computations of Resistance	
12. Loss of Head in Apparatus	75
13. Coefficients of Frictional Resistance	81
14. Coefficients of Local Resistance	84
15. Coefficients of Flow	98
III. Selection of Materials and Permissible Stresses	
16. Steel	102
17. Nonferrous Metal Alloys and Metals	108
18. Iron Casting	111
19. Packing Materials	112
20. Insulation Materials	113
IV. Computations of Strength	
21. Computations for Cylindrical Drums	115
22. Computations for Convex Caps and End Plates	120
23. Computations for Flat Walls, Caps, and End Plates	126
24. Computations for the Walls of Copper and Brass Vessels	129
25. Computations for the Walls of Cast Iron Vessels	131
26. Computations for the Walls and Reinforcement of Rectangular Vessels	133
27. Computations for Reinforced Cuts	134
28. Computations for Tube Plates	135
29. Computations for Flanges	139
30. Computations for Expansion of Apparatus	141
31. Computations for Lens Expansion Joints	143
32. Computations for Pipes	146
33. Computations for Bolts and Studs	148
34. Computations for Riveted Seams	153
V. Appendixes	
1. Dry and Saturated Vapor From Zero to 50 Degrees Centigrade	155

- 2 -

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

50X1-HUM

	<u>Page</u>
2. Saturated Steam	158
3. Superheated Steam	163
4. Physical and Technical Constants of Water Vapor	169
5. Physical and Technical Constants of Dry Air When P = 1 kg/sq cm	170
6. Physical and Technical Constants of Petroleum Products	171
7. Physical and Technical Constants of Water	172
8. Physical and Technical Constants of Sea Water	173
9. Norms of the Composition (Quality) of Water	174
10. Translation of English Measures Into the Metrical System	175
11. List of Basic Standards	178
12. Examples of Heat Computations for the Most Typical Heat-Exchange Apparatus	183
Bibliography	203

- E N D -

- 3 -

CONFIDENTIAL

CONFIDENTIAL